3.3 Alternative Modes Element

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3.3.1 Introduction

A complete transportation system is designed and operated to enable safe access for all users. While streets and motorized vehicles do account for the majority of a transportation system, they are not the only component. Broadly speaking, a transportation system can be defined as any means used to move people and/or products. Taken together these individual transportation options create the community's transportation system. For this reason it is critical that the transportation element addresses each of these choices, as applicable to the community. A complete transportation system also allows users to get needed physical activity into their daily lives. Pedestrians, bicyclists, motorists, and transit riders of all ages and abilities must be able to safely move along and across a complete street. An incomplete system fails to serve the pedestrians, cyclists, transit, individuals with disabilities, and both the youngest and oldest members of our communities. A complete transportation system also includes consideration for the environment by promoting "green" building concepts while beautifying streets and making them inviting places to be.

3.2.1 Discussion

A. Pedestrian

The most basic transportation option is walking. Walking is the most popular form of exercise in the United States and can be performed by people of all ages and income levels; however, it is not often considered as a means of travel. This is mainly because pedestrian facilities are generally an afterthought and not planned as an integral part of the transportation system.

The city's pedestrian network consists of sidewalks, trails, and street crossings. Surprise has many areas that seem especially conducive to walking for recreation and transportation, particularly within the planned village core areas, within its neighborhoods, and along the washes that traverse the city. The city has in the past established policies to encourage

improvement of the pedestrian network in those areas, through pedestrian connections between neighborhoods and other areas. Some parts of the city are well served by an extensive sidewalk network and pleasant walking conditions. Pedestrian connectivity along washes and canals is lacking and must be given significant attention. The *Alternative Modes Plan* includes multi-purpose paths, and a variety of trail corridors for pedestrian activity. Trails include local routes and also corridors included in the *Maricopa County Regional Trails Plan*. The *Alternative Modes Plan* is shown on Map 3.3A.

Pedestrian Improvement Priorities

Barriers to pedestrian movement limit the viability of walking as a form of transportation in some parts of the city. Specific pedestrian issues raised during "pedestrian hot spot" discussion undertaken as part of the new Surprise General Plan 2030 preparation include the lack of pedestrian crossings at intersections, the lack of sidewalks along some streets, difficult crossings on certain intersections, and train crossings at a number of locations.

In addition, measures may be required in special areas to reduce vehicle speed and induce traffic calming. The Surprise General Plan 2030 seeks to promote walking within Surprise by improving pedestrian connections, increasing pedestrian safety and creating a land use context supportive of pedestrian travel.

Minimizing conflict between transportation modes

Pedestrians face obstacles and conflicts with motorists when roadways and developments are designed primarily for the automobile. Even if pedestrian facilities are provided, high-speed, high volume roadways with large intersections create barriers for pedestrians. In designing roadways, the impact that the different modes have on each other must be balanced. A large number of public comments received during the general plan development process have indicated a strong need for better pedestrian connectivity throughout the city, especially the need to address major pedestrian barriers. In addition the need to create a more pedestrian friendly environment (with amenities, traffic calming, and safer

intersections) has been extensively noted, particularly within high activity centers and nearby neighborhoods.

Facility Improvements

The city of Surprise requires sidewalks along all public streets as part of new developments. Retrofitting existing developed areas to add sidewalks and/or curb ramps is also being done, but is a more difficult and controversial task. This issue has been noted extensively in public comments on pedestrian transportation.

Design for pedestrian facilities for persons with special needs

Limitations experienced by the elderly, children, and persons with a disability should be considered in the design of pedestrian and other transportation facilities. "Accessible" design is required by the Americans with Disabilities Act (ADA) and can benefit able-bodied users as well. Numerous public comments received during the general plan process have stressed the need for better pedestrian facilities, especially for the residents with disabilities who rely on them most.

Maintenance of pedestrian facilities

Continued maintenance efforts are needed to assure that pedestrian areas, including bus stops are in a usable state of repair. This is especially important for the elderly and persons with a disability in order to maintain their mobility.

B. Bikeway System

Like pedestrians, bicyclists are often overlooked when considering transportation facilities. Cycling, however, is a very efficient mode of travel. Bicycles take up little space on the road or when parked. They do not contribute to air or noise pollution and offer relatively higher speeds than walking. Bicycling should be encouraged to decrease the use of automobiles for short trips in order to reduce some of the negative aspects of urban growth. Linked trips using bicycles and transit are possible since all Valley Metro regional buses have bike racks on the front. Noise, air pollution, and traffic congestion could be mitigated if more short trips were taken

by bicycle or on foot. Riding a bike for short distances between residences and transit stops helps reduce our vehicle impacts during peak travel hours. Typically, a short trip that would be taken by bicycle is two miles; on foot, the average distance commonly walked is around one-half mile. Recreational bicycling is also gaining popularity as an essential need of the bikeway system in Surprise especially along Sun Valley Parkway.

The size, topography, and climate of Surprise make it an ideal city for bicycling. Bicycles are convenient for short trips within cities, especially those less than three miles in length. According to the United States Department of Transportation, one-quarter of all trips in this country are under one mile; about 40 percent of all the trips are two miles or shorter.

According to the 2000 census, less than one percent of Surprise residents commute to work by bicycle. The bikeway network has not been developed as a viable commute alternative in Surprise. Bicycle lanes and support facilities such as bicycle parking are lacking in most areas. Construction of a comprehensive citywide bikeway network and support facilities, such as bicycle parking at employment locations and other destinations, could greatly increase the mode share of bicycling. Reducing local vehicle trips into retail centers by shifting those trips to bicycling or walking would help alleviate circulation and parking concerns. Development of a bicycle path along the canal systems is also an opportunity to provide alternative cross-town linkages.

The *Alternative Modes Plan* includes three types of bike path designations:

- **Bike lanes:** Bike lanes are within the roadway, next to the curb. Bike lanes are proposed for both minor arterial roadways and collector streets without on street parking.

- **Multi-purpose paths:** Multi-purpose paths are behind the curb and sized to accommodate both bicyclists and pedestrians. Multi-purpose paths are proposed for all parkway cross sections.

- **Bike Routes:** Bicycles are allowed to operate on all Arizona roadways where they are not prohibited by the State Engineer (currently only the Valley Freeway System and Interstate-10 between Phoenix and Tucson). Bicycle routes are roadways which have no bike lane designated within the roadway but which are accepted recreational bicycle corridors of regional significance, such as Sun Valley Parkway, which see significant recreational use. The *Alternative Modes Plan* is intended to support both commuter and recreational bicyclists with local and regional links

Bicycle parking and support facilities

Every bicycle trip has two components; the route selected by the bicyclist and the "end-of-trip" facilities at their destinations. Support facilities are facilities that cyclists use when they reach their destinations. They can include short and long-term bicycle parking, showers, lockers, good lighting, and even public phones. The lack of secure bicycle parking, shower, and locker facilities can be one of the largest deterrents to cycling for many riders.

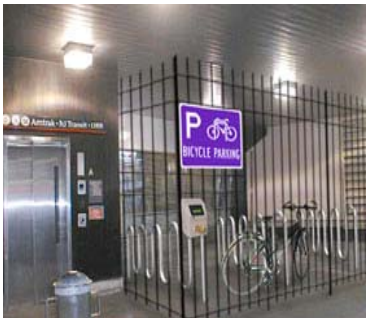
Issues of concern for bicyclists include: barriers (freeways) and hazards (e.g., rail crossings), lack of bicycle accommodations on existing major roadways, lack of alternatives on heavily used major roadways due to inadequate street connectivity, and lack of traffic control devices that work for bicyclists. Maintenance of bicycle facilities is also a concern due to debris accumulation and surface deterioration.

Types of bicycle parking and support facilities

There are different types of support facilities just as there are different levels of bikeway facilities. Support facilities fall into one of three main categories:

Short-term bicycle parking: Bicycle racks are low cost devices that provide a location to secure a bicycle. Ideally, bicyclists can lock both their bicycle frame and wheels. The bicycle rack should in a highly visible location secured to the ground, preferably within 50 feet of a main entrance to a building or facility. Short-term bicycle parking is commonly used for short trips, when cyclists are planning to leave their bicycles for a few hours.

Long term bicycle parking: Bicycle lockers are covered storage units that can be locked individually, providing secure parking for one bicycle. Bicycle cages are secure areas with limited access roads. Occasionally they are attended. Each of these means is designed to provide bicyclists with a high level of security so that they feel comfortable leaving their bicycles for long periods of time. They are appropriate for employees of large buildings and at transit stations.



Shower and locker facilities: Lockers provide a secure place for bicyclists to store their helmets or other riding gear. Showers are important for bicycle commuters with a rigorous commute and/or formal office attire.

Bicycle stations: Bicycle stations provide free all day attended bicycle parking. Bicycle stations usually provide bicycle tune ups, repairs, and rentals in order to sustain their operation. They are intended to serve locations with larger numbers of bicycle commuters needing long-term bicycle parking and are an excellent means of facilitating the inter-modal connections between bicycles and transit.

Public education

To be responsible bicyclists, riders should learn their rights and responsibilities and safe riding techniques. This knowledge is also necessary for motor vehicle drivers sharing the road with bicyclists. There is a continuous need to provide education for bicyclists and motorists including development and distribution of bicycle maps and other informational materials and conducting safety and training programs.

C. Neighborhood Electric Vehicle (NEV)

The neighborhood electric vehicle is a small, electric car designed for low-speed, local trips in neighborhoods and urban areas. These vehicles are designed for short trips on surface streets to carry small loads, and generally for one or two people, although they might be designed for additional passengers. The popularity of NEVs is growing at an incredible rate. NEVs are similar to golf carts and some even double as golf carts, but they are street legal in most areas. They are not intended to be freeway capable, allowing for a dramatic reduction in energy and power needs.

NEVs would serve those trips that consumers find too long for walking and bicycling but do not require the use of full-size automobiles. They have become incredibly popular in many places such as retirement communities, resort areas, campgrounds, and golf course communities. NEVs are usually a little faster and safer than a standard golf cart and they will normally carry four passengers. NEVs have been growing in popularity among all age groups especially among the numerous adult communities that have been developed in the city of Surprise planning area during the past twenty years. These communities provide amenities that encourage the use of NEVs and golf carts as a means of transportation. During the development of the Surprise General Plan 2030 several issues concerning current and future conflicts between NEVs, golf carts, and automobiles were identified. Concerns include increased traffic on major streets, the increasing difficulty for NEV and golf cart drivers to cross these streets, and safe access for golf cart users to shopping areas and grocery stores. The city of Surprise supports the use of electric vehicles, but has emphasized that the vehicles must be operated in accordance with existing Arizona law. Arizona law provides the following restrictions (ARS 28-966):

A neighborhood electric vehicle shall not be operated at a speed of more than twenty-five miles per hour (25 MPH).

1. A neighborhood electric vehicle shall not be driven on a highway that has a posted speed limit of more than thirty-five miles per hour (35 MPH). This section does not prohibit a neighborhood electric vehicle from crossing a highway that has a posted speed limit of more than thirty-five miles per hour at an intersection.

2. A neighborhood electric vehicle shall have a notice of the operational restrictions applying to the vehicle permanently attached to or painted on the vehicle in a location that is in clear view of the driver.

The need for NEVs to reach destinations by crossing major roads makes for potentially hazardous situations. The use of NEVs to cross over into areas that are not signed or built to accommodate them may result in a serious safety hazard. To accommodate NEVs safely on existing roads designed for large vehicle and fast-moving traffic, infrastructure standards and designs will need to be modified. The type and scale of NEV infrastructures would vary across communities, depending in part on which vehicles prevail. On streets that carry heavy traffic, NEVs should be allowed only if the posted speed meets state requirements and if the drivers of other vehicles are made aware of the presence of such vehicles in the area. Any NEV used on the city streets should be equipped and insured in the manner prescribed by state law. Improvement in safety of these low-polluting and energy efficient vehicles is a significant concern in the city of Surprise.

3.3.3 Goals and Policies

Goal 1

A safe, comprehensive, and integrated pedestrian system and facilities is created, maintained and integrated into the village planning process.

Policies

1. Conduct an inventory of key pedestrian facilities and routes to identify missing and deficient links, pedestrian crossings, or intersections.

2. Improve pedestrian experience through streetscape enhancements, focusing improvements where there is greatest need.

3. Improve street crossings and complete gaps in the sidewalk system through development review and capital improvement projects.

4. Create a pedestrian priority program emphasizing pedestrian circulation needs and safe street crossings.

5. Establish a prioritization and funding mechanism for completing gaps in the sidewalk system, identifying locations for improving street crossings, and installing curb ramps to meet ADA specifications.

6. Establish a network of multi-use trails to facilitate safe and direct off-street bicycle and pedestrian travel.

7. Develop a program for installation of pedestrian facilities in already developed urban areas where they do not currently exist.

8. Improve pedestrian visibility and safety, and raise awareness of the benefits of walking.

9. Identify specific pedestrian mobility and accessibility challenges and develop measures for implementation of necessary improvements.

Goal 2

A safe, comprehensive and integrated bicycle system is created and maintained.

Policies

1. Implement the bike lanes, paths and routes as outlined in the bicycle plan.
2. Design and maintain bikeways at local, state, and federal standards in order to maximize safety for bicyclists.
3. Develop and implement a uniform bicycle signage program to enhance safety and ease of travel.
4. Promote bicycle travel as an alternate mode of transportation.
5. Promote a system of bicycle facilities that provide a continuous, connective, safe, and accessible system.
6. Promote bicycle safety education programs to increase awareness of and adherence to laws and regulations regarding bicycle use.
7. Design bicycle facilities consistently throughout the region.

Goals 3

Increased use of NEVs are facilitated through appropriate roadways.NEV use has increased and there are appropriate roadways.

Policies

1. Support the designation of neighborhood electric vehicle routes
2. Adopt a classification of NEV routes.
3. Develop signage, striping and pavement marking standards for NEVs on appropriate local and neighborhood streets.